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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/465,056	12/16/1999	ROGER E. WEISS	PARI/981/US	8410

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EXAMINER

NGUYEN, TRUC T

ART UNIT	PAPER NUMBER
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2833

DATE MAILED: 08/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/465,056

Applicant(s)

WEISS, ROGER E.

Examiner

Truc T. T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) 4, 8, 13-17, 20-22 and 25-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7-9, 12, 18, 19, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 3, 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAIL ACTION

1. The indicated allowability of claims 2, 7 and 9 are withdrawn in view of the newly discovered reference(s) to Lamp (US 4,003,621). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 7, 9 12, 18, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambert et al. (US 4,820,376) in view of Lamp (US 4,003,621).

Regarding claim 1, Lambert et al. disclose a device for electrically interconnecting two or more components, comprising:

an elastomeric matrix (11) having one or more surfaces (12, 13);
a plurality of electrically conductive pathways (see Figure 1) through the matrix including a plurality of conductive particles (10);

Lambert et al. substantially disclose the claimed invention except for a plurality of electrically conductive contact pads integral with the matrix and in electrical contact with the plurality of conductive pathways; wherein at least a portion of one or more of the pads is extended outward from an outer surface.

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Lamp teaches a plurality of electrically conductive contact pads (80, 80', 82, 82') in electrical contact with the plurality of conductive pathways (12) and is extended outward from an outer surface (84, 84').

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a conductive pads into Lambert et al.'s matrix, as taught by Lamp for increasing contact area thus providing better electrical conduction.

Regarding claims 2, 7 and 9, in the modified interconnecting device of Lambert et al. in view of Lamp, Lamp teaches the conductive pads (80, 82) being extended outwardly from the surface (84) by a distance of its thickness. These pads in combination with Lambert's matrix will inherently provide one or more flow spaces that allow a portion of the matrix to enter the flow spaces under a compression force.

Regarding claim 12, in the modified interconnecting device of Lambert et al. in view of Lamp, Lambert et al. disclose one or more of said pathways comprising a plurality of particles (10) aligned to form a column having at least one end, wherein one or more of said pads are in contact with at least one of said ends of one or more of said columns of particles (Figure 2).

Regarding claim 18, in the modified interconnecting device of Lambert et al. in view of Lamp, Lambert et al. disclose one or more pathways comprises a plurality of electrically conductive particles aligned in a column having at least one end particle coated with a metal (17).

Regarding claim 23, in the modified interconnecting device of Lambert et al. in view of Lamp, Lambert et al. further disclose one or more of said pathways comprising a plurality of

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conducting particles aligned in one or more columns having at least one end particle (Figures 1-3).

Regarding claim 24, in the modified interconnecting device of Lambert et al. in view of Lamp, Lamp discloses the outer surface of the matrix comprise a first surface (84) adapted to face one component (un-numbered, a component that bearing a force F shown in Figure 9) and a second surface (84') adapted to face a second component (un-numbered, a component that bearing a force F shown in Figure 9).

4. Claims 10-11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambert et al. (US 4,820,376) and Lamp (US 4,003,621) and Applicant's Admitted Prior Art (disclosed in the Background of the Invention section).

Regarding claim 10, the modified interconnecting device of Lambert et al. in view of Lamp substantially disclose claimed invention except the pathways being anisotropic and comprise up to about 25% magnetic particles.

Applicant's APA teaches the conductive pathways being anisotropic.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the conductive pathway of Lambert et al. by a plurality of anisotropic particles, as taught by Applicant's APA for providing compressibility in different direction of the particles.

It would have been obvious to one having ordinary skill in the art at the time the invention was to made to provide the pathways comprise up to about 25% magnetic particles , since it has been held that where the general conditions of a claim a are disclosed in the prior art,

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discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 11, in the modified interconnecting device of Lambert et al. in view of Lamp and Applicant's APA, Lambert et al. disclose the plurality of the magnetic particle are aligned to form one or more array of electrically isolated column having at least one end, wherein one or more of said pads is in contact with an end of one or more of said columns of particles (see Figure 1).

Regarding claim 19, the modified interconnecting device of Lambert et al. in view of Lamp substantially discloses the claimed invention except the matrix comprises one or more elastomers which retain about 90% or more of its modulus of compression over a temperature range of between about -50 degree Celsius to 200 degree Celsius.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide about 90% or more of elastomer into the Jin et al's. Since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Allowable Subject Matter

5. Claims 3, 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is an examiner's statement of reasons for allowance:

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Regarding claim 3, the prior art of record fails to teach a means for providing the flow spaces comprises one or more compressible microspheres imbedded in said matrix.

Regarding claim 5, the prior art of record fails to teach the means for providing the flow spaces comprises one or more gas particles located in the matrix

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

7. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

This is a NON-FINAL office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Truc T. T. Nguyen whose telephone number is 703-306-4004. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on 703-308-2319. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A handwritten signature in black ink, appearing to read 'T. Nguyen', with a stylized flourish extending to the right.

T. Nguyen
August 11, 2003